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10/089,011

03/25/2002

Kenneth James Bunker

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EXAMINER

SICONOLFI, ROBERT

ART UNIT

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**GROUP 3600**

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/089,011  
Filing Date: March 25, 2002  
Appellant(s): BUNKER, KENNETH JAMES

Raymond C. Meiers  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 12/18/06 appealing from the Office action mailed 4/11/06.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

4,804,073	Taig et al	2-1989
WO 9826191	Bunker	6-1998

### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 14 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bunker (WO 98/ 26191) in view of Taig et al (U. S. Patent no. 4,804,073).

Bunker discloses all the limitations of the claims except for the use of an electric actuator. Taig teaches the use of an electric actuator (motor 40) in a disc brake setup with a hydraulic mechanism to actuate the brake without using the motor. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an electric actuator with a hydraulic backup as taught by Taig in the system of Bunker in order to improve performance due to elimination of pressure delay while still maintaining safety even in the event of an electrical failure.

### **(10) Response to Argument**

Appellant argues two main points regarding the combination of Bunker and Taig et al: 1) The rejection lacks proper motivation and 2) the references teach away from each other.

Regarding the argument of proper motivation, Appellant argues that there is no pressure delay that would apply to a hydraulic system that would not apply also to an electrical system and that a hydraulic system is "instantaneous". The examiner disagrees. The electrical signal used in a motor setup travels at the speed of light. The pressure wave in a hydraulic system travels at a speed several orders of magnitude slower. While a hydraulic system is fast, especially compared to a pneumatic system, it is not as fast as an electrical system. Furthermore, the signal speed has to be realized

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in the context of the operation of the system. ABS and similar electronic braking systems operate on the order of milliseconds and therefore system response can be effected by such a time lag though it appears small to human perception. Additionally, one of ordinary skill in the art would have been motivated to combine Bunker and Taig et al as Taig et al provides a reliable system due to the dual system nature that is low cost and will fit in a standard vehicle space without modifications (see Taig et al Column 1 lines 10-25 esp. lines 22-25). Taig et al discusses the goal of simplifying the system and reducing weight (see Taig et al Column 1 lines 11-15) One of the goals of Bunker is to provide a robust system in a low cost manner (see Bunker pages 2 line 36 to page 3 line 4) by using less expensive materials and eliminating necessary parts/weight (see page 3 line 6-9). Bunker discusses how "conventional" systems require complex and expensive parts on page 2 lines 9-14.

Regarding whether the references teach away, Appellant argues that Taig et al teaches away from Bunker since it involves a seemingly more complicated structure and motivated by the desire expressed by Taig et al of weight reduction and simplification would choose the system of Bunker over Taig et al. The examiner disagrees with this line of reasoning. Taig et al specifically states that his invention is a reduction of weight and a simplification compared to the prior art (Column 1 lines 11-15). A purely hydraulic system used by Bunker (the actuation system per se of Bunker is not a point of emphasis for his invention) predates the invention of Taig et al by many years. It is unclear why one of ordinary skill would choose the system of Bunker to fulfill Taig's expressed preferences over the system of Taig et al as the system of Taig et al

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fulfills those needs in a manner judged superior to the prior art (of which the system of Bunker is part).

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**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

RS

Conferees:

Meredith Petravick *MP*

Thomas Williams *TW*

*Robert A. Siconolfi* 3/15/07  
ROBERT A. SICONOLFI  
PATENT EXAMINER